64. **Numenius hudsonicus.** HUDSONIAN CURLEW. — An abundant resident. Does not breed.

65. **Numenius borealis.** ESKIMO CURLEW. — A common winter resident along the coast.

66. **Squatarola squatarola.** BLACK-BELLIED PLOVER. — Commonly known as *Gros yeux*, *Ventre noir*, and Bull Head. An abundant resident. Does not breed.

67. **Charadrius dominicus.** AMERICAN GOLDEN PLOVER. — Commonly known as *Gros tete*. A common bird during migration. A few winter along the coast.

68. **Ægialitis meloda circumcincta.** BELTED PIPING PLOVER. — Not an uncommon winter resident.

69. **Ægialitis vocifera.** KILLDEER. — An abundant resident; breeds commonly.

70. **Ægialitis semipalmata.** SEMIPALMATED PLOVER. — A rare winter visitant.

71. **Ægialitis nivosa.** SNOWY PLOVER. — A rare winter visitant.

72. **Ægialitis wilsonia.** WILSON'S PLOVER. — An abundant resident, breeding all along the coast. Commonly known as *Collier*.

73. **Arenaria interpres.** TURNSTONE. — Commonly known as Pigeon. An abundant resident, on the coast.

NESTING OF THE PARULA WARBLER (*COMPSOTHLYPIS AMERICANA*) IN CAPE MAY COUNTY, NEW JERSEY.[1]

BY MARK L. C. WILDE.

PERHAPS no other portion of the State of New Jersey is better adapted as a breeding ground for the Parula Warbler than Cape May County. Quite a number of its streams, including Dennis Creek and tributaries, are dammed off to supply power to the various saw and grist mills, thereby forming mill-ponds, and in some cases these streams spread over a considerable area, owing to the extreme shallowness of the valleys.

[1] Read before the Delaware Valley Ornithological Club of Philadelphia.

I desire to speak more particularly of the ponds, and large shallow stretches of water above the mill-dams, together with the small winding streams which supply them, as these are the localities where the long-bearded lichen or 'beard-moss' (*Usnea barbata*), in which the Parula Warblers almost invariably construct their nests, grows most abundantly.

The mill-ponds formed by the streams north of the Dennis Creek are wholly or partly hemmed in by dense thickets of various kinds of bushes, beyond which, almost as far as the eye can see, the higher dry land or as I might better say the hot 'Jersey Sand-Barrens,' are overgrown with scrub-oaks (*Quercus ilicifolia*), interspersed with a few tall pines (*Pinus rigida*), while other portions are cleared for farming purposes.

In the upper portion of the northern mill-ponds the numerous small cedar-bushes, which when fullgrown may only be termed scrub-cedars (*Chamæcyparis thyoides*), together with other trees and bushes, all of which are often matted together in small clumps or islands, are nearly all draped with festoons of 'beard-moss.' In addition to this, dead stumps of the cleared off timber still project out of the water, and many of their decayed tops being covered with smaller vegetation and 'beard-moss,' also help to beautify the mill-ponds. Various ericaceous bushes and open sphagnum bogs are scattered throughout this region, and these bogs often continue to the very sources of the small streams which supply the mill-ponds with water.

The Parula Warblers breed undisturbed in these secluded spots, where the Kingbirds may be seen with outstretched wings, swaying on the topmost branches of the cedars, and where insects and Hummingbirds (*Trochilus colubris*) may be heard, as they swiftly wing their way across the ponds. Uninterested persons seldom if ever intrude, probably on account of the 'out-of-the-way' localities, and the difficulties connected with penetrating the dense bushes which surround their breeding grounds.

The trees here in the upper portion of the mill-ponds increase in size, gradually culminating into dense red-water cedar-swamps, as they follow the small streams to their sources.

Viewed from a short distance these saturated cedar-swamps present the appearance of a solid mass of dark green, and when

in the interior, the eye can penetrate but a few yards among the thickly clustered trunks. The Parula Warblers do not breed within these dense, dark, cedar-swamps, but may occasionally be found breeding on their borders.

Between that portion of the ponds where the cedars are more open, and the dense cedar-swamps above, the small channels are so choked up with bushes, and tangled, twisted, moss-covered branches of the scrub-cedars, that progress in a flat-bottom boat (which is the safest way to travel through this region, on account of the uncertainty of the bogs) is very slow and laborious.

A few remarks on the streams, and southern tributaries of Dennis Creek, would probably be of interest.

The mill-dam on Sluice Creek, the southeastern branch of Dennis Creek, forms a lake half a mile in length, and marks the northwestern extremity of the 'Timber and Beaver Swamp,' which stretches away nearly three miles to the east. The extensions of this creek south of the lake referred to, are gradually drained of their water by the swamps, which as I have already intimated, have been formed by the flatness of the land.

These swamps are bordered with tall bushes, beyond which are woods of chestnut, oak, beech, laurel, and pitch-pine, interspersed with a large quantity of holly, while the swamps themselves outside of the main channels, are overgrown with sassafras, maple, cedar, gum, magnolia, and various kinds of bushes, including bush-huckleberry, cranberry, alder and cedar, the whole being interwoven with thorny green-briars. The crooked and twisted branches of these trees and bushes are nearly all draped with beard-moss. Numerous open sphagnum and cranberry bogs are also scattered throughout this region.

Among the beautiful moss-covered trees and bushes already described, the Parula Warblers congregate in large numbers, to make their summer home. They arrive from the south apparently already paired, about the first of May, and by the second week have commenced nest building.

Nests can be found from the border to the middle of the mill-ponds and swamps, and may be looked for anywhere from under the tip of an outstretched or drooping branch to against the tree trunk, or in smaller bushes, and from one foot above the water to

twenty feet high. Generally, however, on account of the beard-moss growing more abundantly on the lower branches of the trees, under eight feet may be considered the average height. From the data of thirty-three nests the summary is as follows: —

1	foot	high,	1 nest.
2	feet	high,	2 nests.
2½	"	"	6 "
3	"	"	7 "
3½	"	"	2 "
4	"	"	1 nest.
4½	"	"	2 nests.
6	"	"	2 "
7	"	"	3 "
8	"	"	3 "
13	"	"	1 nest.
15	"	"	2 nests.
20	"	"	1 nest.

Parula Warblers seem to colonize naturally to a larger extent than any of our other Warblers, probably on account of the beard-moss (of and in which, as I have said before, this species almost exclusively builds its nests), growing more heavily on certain patches of trees and bushes, than on others.

Having selected a suitable spot the female alone assumes the task of nest building, while her mate leisurely feeds among the tangled branches, and occasionally clinging to a twig head downward in Chickadee fashion, he reaches here and there for lurking insects, and flying a short distance, pauses for a moment to emit his song.

The nest is invariably placed in a hanging position. The female usually selects a tree in which the beard-moss grows quite thickly, and here within the tufts, she loops and weaves together the inside hanging particles of moss, forming a beautiful nest, much resembling the style of the Baltimore Orioles. The birds are careful that the moss shall be left hanging in its natural way, from the bottom and sides of the nest, and often so conceal it, that it can only be found by a close and careful observer. Into the structure the bird then carries thread-like pieces of beard-moss, collected from some nearby tree. This moss is used exclusively

by some Parulas in lining their nests, while others add a few horse-hairs and a yellow down which is taken from the stems of swamp ferns. The nest is very compact and closely woven, occasionally having a few pine-needles stuck into it around the outside, probably to help support and pin it to the hanging particles of moss.

The entrance, which is always on a level with the top of the bowl, is made through the moss on the side, very often directly under the limb where the moss is parted. The walls of the bowl, being at least a half an inch in thickness, form a platform which is often flattened out resembling a small mat, on which the bird rests when entering or leaving the nest. Some nests have two or more entrances, either left as peep windows for escape, or unintentionally caused by the thinness of the moss above the bowl.

I have examined a few nests where the entrance was made from the top, the nest having been suspended either between two twigs or between the trunk of a tree and an adjoining tuft, but such cases as these are rare, and may be considered departures from their regular style of building. From over a hundred nests of this species, found during the past three years, nearly all were partly or entirely roofed over, with the entrances from the sides as previously described.

One nest collected during May, 1893, was suspended from a two inch limb, containing little or no moss, outside of that of which the nest was constructed, but this I do not consider a typical nest.

The inside measurements of the nests vary, ranging from about one and a half to two inches both in depth and diameter.

I have watched Parula Warblers enter their nests, and have seen both sitting on their eggs and young, by keeping perfectly still and quiet in a row-boat, at a distance of not more than from three to four feet.

With very few exceptions, the number of eggs laid is four, which show remarkable variation in size and shape. They have a white ground color, and are more heavily dotted with reddish brown and lilac at the larger ends, often forming a ring round them.

Full clutches of fresh eggs may be found on the 20th of May, and I found one nest containing young just hatched on the 4th of June, 1893.

Although I have seen a number of small snakes, throughout these ponds and swamps, drop off the lower branches of the trees and bushes at my approach, I have never found any nests of the Parula Warblers which had been disturbed by them.

On May 21, 1894, after a heavy wind and rain storm which lasted some four or five days, the swamps in northern Cape May County were completely flooded. I found one Parula's nest during this storm which had been washed out, and probably many others on the lower branches were destroyed. The land bordering one of these swamps northwest of Dennisville, which on May 18 seemed very dry, was also flooded for some distance, and many Black and White Warblers, a nest of which was found here on that date, were seen feeding among the trees, and no doubt not only their nests, but many others of the ground nesting species were destroyed.

DESCRIPTION OF A NEW TOWHEE FROM CALIFORNIA.

BY JOSEPH GRINNELL.

Pipilo clementæ, new species. SAN CLEMENTE TOWHEE.

Specific characters. — Differs from *P. maculatus megalonyx* in its larger size, and in having the dark upper and anterior parts in both sexes of a much lighter shade.

Type, ♂ ad., No. 2290, Coll. J. G., Smuggler's Cove, San Clemente Island, California, Mar. 31, 1897.

Head and neck all around sooty seal brown, purest and darkest on the throat. Upper parts, including wings and tail, sooty, 'washed' with olive-gray. Rump lighter. Upper tail-coverts finely barred with dusky. Distribution of white markings, and rest of plumage, as in ♂ *P. m. megalonyx*.

Type, ♀ ad., No. 2291, Coll. J. G., Smuggler's Cove, San Clemente Island, California, Mar. 31, 1897.